REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 1-34 are pending.

I. Rejection under 35 U.S.C. § 102

In the Office Action, at page 2, numbered paragraph 2, claims 1, 2, 4-6 and 15-21 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2002/0171856 to Ackerman et al. This rejection is respectfully traversed because Ackerman does not discuss or suggest:

> a second memory unit having an operating area for the printer operating system, an operating area and a heap area for each interpreter of the first memory unit, and at least two reception buffers temporarily storing incoming print job data;... [and]
>
> a print job scheduling unit providing a first scheduling procedure regarding initiation of the interpreters for multiple print jobs and a second scheduling procedure regarding interpretation of the multiple print jobs that have been initiated, the printer control unit using the first scheduling procedure and the second scheduling procedure to control the operation of the interpreters,

as recited in independent claim 1.

Ackerman discusses a method and apparatus for automatically detecting and processing binary postscript print jobs in which a printer 10 includes a ROM or flash memory 16 and a RAM 15. The ROM or flash memory 16 includes one or more interpreters 28 that interpret text or graphical input data. After being interpreted, the input data is sent to a common graphics engine to be rasterized, which occurs in a portion of RAM.

First, while Ackerman discusses that the ROM may include multiple interpreters 28, Ackerman does not discuss or suggest a second memory unit having an operating area and a heap area **for each interpreter** of a first memory unit, and at least two reception buffers temporarily storing incoming print job data. Ackerman discusses that interpreted input data can be sent to a common graphics engine to be rasterized, which occurs in a portion of RAM. However, Ackerman does not discuss or suggest that the RAM includes a heap area for each interpreter. Ackerman does not discuss heap areas at all and thus there is no indication that Ackerman discusses that the RAM includes a heap area for each of multiple interpreters.

Further, the Examiner alleges that the input buffer 22, which is clearly expressed in Ackerman as being a single buffer could correspond with "at least two reception buffers temporarily storing incoming print job data". The Applicants respectfully disagree. Whether or not input buffer 22 could be partitioned does not suggest that a single input buffer 22 is at least **two** reception buffers. Partitioning one buffer does not separate the buffer into multiple buffers. In addition, as the Examiner appears to be implicitly taking Official Notice that a single buffer may be partitioned into multiple buffers, the Applicants respectfully request that the Examiner provide a specific reference exemplifying such.

In addition, Ackerman does not discuss or suggest providing multiple scheduling procedures, where a first scheduling procedure regards initiation of interpreters for multiple print jobs and a second scheduling procedure regards interpretation of the multiple print jobs that have been initiated. Ackerman discusses that the printer can scan print language interpreter information and that a print language interpreter is typically responsible for generating a printable image based on print language-specific print data. However, Ackerman does not discuss that a print language interpreter provides two types of scheduling procedures, where one procedure regards initiation of interpreters for multiple print jobs and the other regards interpretation of the multiple print jobs that have been initiated, the first and second procedures being used to control the operation of the interpreters.

The Examiner states that "the print language interpreter would different job's interpretation [sic]." The Applicant respectfully submits that this language is unclear as to what the Examiner is asserting that Ackerman discloses. Nowhere in Ackerman is there discussion of providing two types of scheduling procedures and the disclosure submitted by the Examiner is unclear as to how exactly the print language interpreter discusses providing two scheduling procedures that are used to control the operation of the interpreters. Ackerman does not discuss or suggest the use of a print job scheduling unit.

Therefore, as Ackerman does not discuss or suggest "a second memory unit having an operating area for the printer operating system, an operating area and a heap area for each interpreter of the first memory unit, and at least two reception buffers temporarily storing incoming print job data;...[and] a print job scheduling unit providing a first scheduling procedure regarding initiation of the interpreters for multiple print jobs and a second scheduling procedure regarding interpretation of the multiple print jobs that have been initiated, the printer control unit using the first scheduling procedure and the second scheduling procedure to control the operation of the interpreters," as recited in independent claim 1, claim 1 patentably distinguishes over the reference relied upon. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Claims 2, 4-6 and 15-21 depend either directly or indirectly from independent claim 1 and include all the features of claim 1, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 2 recites that "the first memory unit assigns different link addresses to the respective interpreters." Therefore, claims 2, 4-6 and 15-21 patentably distinguish over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

II. Rejection under 35 U.S.C. § 103

In the Office Action, at pages 5-7, numbered paragraphs 4 and 6, claims 7-14, 22-30 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ackerman in view of U.S. Publication No. 2002/0118387 to Patton. This rejection is respectfully traversed.

As to claims 7-14, as discussed above, Ackerman does not discuss or suggest all the features of independent claim 1. Patton fails to make up for the deficiencies in Ackerman. Claims 7-14 depend either directly or indirectly from independent claim 1 and include all the features of claim 1, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 7 recites that "the first scheduling procedure allows interpretation of higher priority print job data to be initiated earlier than lower priority print job data, even when interpretation of preceding print job data has been initiated." Therefore, claims 7-14 patentably distinguish over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Further, the combination of the teachings of Ackerman and Patton does not suggest:

> scheduling initiation of interpreters according to a first scheduling procedure depending on print job priority between preceding print job data having interpretation initiated and succeeding print job data; and
>
> scheduling a process of interpretation of multiple print job data having interpretation initiated according to a second scheduling procedure depending on occupation ratios and print job priority,

as recited in independent claim 22.

First, Ackerman does not discuss or suggest scheduling initiation of interpreters according to a first scheduling procedure depending on print job priority between preceding print job data having interpretation initiated and succeeding print job data. Ackerman includes no such discussion and there is no indication in Ackerman of a scheduling procedure being based on a print job priority between preceding and succeeding print job data. Second, as conceded by the Examiner, Ackerman does not discuss or suggest scheduling a process of interpretation of multiple print job data having interpretation initiated according to a second scheduling procedure depending on occupation ratios and print job priority. The Examiner indicates that Patton makes up for the deficiencies in Ackerman, alleging that it would have been obvious to combine the teachings of Ackerman and Patton to "enhance the printing system to higher capabilities." The Applicant respectfully disagrees.

Patton discusses a printing control system that facilitates interruption of a current printing job so that a higher priority job can be printed. However, Patton does not discuss or suggest multiple scheduling procedures and does not discuss or suggest that a process of interpretation of multiple print job data is scheduled according to a second scheduling procedure that depends on occupation ratios. Patton does not discuss occupation ratios.

In addition, the motivation cited by the Examiner of enhancing a printing system to higher capabilities in no way would have led one of ordinary skill in the art to combine the features of Ackerman with the priority printing system of Patton to suggest scheduling initiation of interpreters according to a first scheduling procedure and scheduling a process of interpretation of multiple print job data having interpretation initiated according to a second scheduling procedure depending on occupation ratios and print job priority. Merely knowing that a printing system may have enhanced capabilities is not a motivation to combine references.

In addition, the combination of the teachings of Ackerman and Patton does not suggest "scheduling initiation of interpreters to initiate interpretation of succeeding print job data earlier, even when preceding print job data are being interpreted, when an interpreter run time for the preceding print job data exceeds a predetermined amount of time; and scheduling interpretation of multiple print job data by time-sharing to alternate between the multiple print job data when the multiple print job data have equal occupation ratios without priorities, or scheduling interpretation of multiple print job data by time-sharing according to occupation ratios when the multiple print job data have different occupation ratios without priorities," as recited in independent claim 28.

Further, the combination of the teachings of Ackerman and Patton does not suggest "scheduling initiation of interpreters according to a first scheduling procedure depending on print job priority between preceding print job data having interpretation initiated and succeeding print job data; scheduling a process of interpretation of multiple print job data having interpretation initiated according to a second scheduling procedure depending on interpreter run time and print job priority; and changing the print job schedule according to the first scheduling procedure and the second scheduling procedure," as recited in independent claim 34. Patton does not discuss interpreter run time.

Therefore, as the combination of the teachings of Ackerman and Patton does not suggest all the features of independent claims 22, 28 and 34, and as the motivation cited to combine the references is inadequate to suggest such, claims 22 and 28 patentably distinguish over the references relied upon. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

Claims 23-27 and 29 depend either directly or indirectly from independent claims 22 and 28 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 24 recites that "the first scheduling procedure involves allowing interpretation of new print job data to be initiated earlier than the preceding print job data, even when the new print job data do not have higher priority, when an interpreter run time of the preceding initiated print job data has exceeded a predetermined amount of time." Therefore, claims 23-27 and 29 patentably distinguish over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

III. Allowable Subject Matter

The Applicant is appreciative of the indication that claims 31 and 32 are allowed.

The Applicant is appreciative of the indication that claim 3 would be allowed if rewritten in independent form. As it is believed that claim 1, from which claim 3 depends, is allowable, claim 3 has not been rewritten in independent form.

As no rejection has been made of claim 33, the Applicant is appreciative of the implied allowability of claim 33, which has not been rewritten in independent form.

Conclusion

In accordance with the foregoing, claims 1-34 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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